GARMIN.

Fishfinder 320C

owner's
manual
and
reference
guide

Preface

Thank you for choosing the Garmin Fishfinder 320C. This product is designed for easy operation and to provide years of reliable service.

Please take the time to read this Owner's Manual, and learn the operation of your new unit. This will help ensure that you get the most from the Fishfinder 320C. This manual is broken down into three sections for your convenience. Section One covers the installation and testing for the Fishfinder 320C. Section Two provides detailed references to the features and operations of the Fishfinder 320C. Section Three gives a basic overview of how sonar works and provides information on interpreting the sonar graph.

Product Support

If you encounter a problem, or just have a question, our Product Support Department can be reached Monday-Friday 8am to 5pm Central Standard Time.

By phone at— 1-800-800-1020 or (913)397-8200

Online at— http://www.garmin.com/contactUs/techSupport.jsp

Check the Garmin Web Site (www.garmin.com) for links to Product Support and Product FAQ's

Enjoy your new Fishfinder 320C and once again thank you for choosing Garmin.

Product Registration

Help us better support you by completing our on-line registration today! Have the serial number of your Fishfinder 320C Sounder handy and connect to our web site (*www.garmin.com*). Look for the Product Registration link on the Home page. Also, be sure to record your serial number in the area provided on page ii of this manual.

NOTE: If you have previously registered a Garmin product purchase, we invite you to re-register using our NEW on-line system. Many services provided by our new product registration system are now being automated and re-registering your purchase ensures you the best possible support from Garmin.

Warranty and Serial Number

Serial Number

Use this area to record the serial number (8-digit number located on the bottom of the unit) in case it is lost, stolen, or needs service. Be sure to keep your original sales receipt in a safe place or attach a photocopy inside the manual.

Serial Number:

* ☐☐☐☐☐☐☐☐ *

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The Fishfinder 320C Sounder is fastened shut with screws. Any attempt to open the case to change or modify the unit in any way will void your warranty and may result in permanent damage to the equipment.

LIMITED WARRANTY

This Garmin product is warranted to be free from defects in materials or workmanship for one year from the date of purchase. Within this period, Garmin will at its sole option, repair or replace any components that fail in normal use. Such repairs or replacement will be made at no charge to the customer for parts or labor, provided that the customer shall be responsible for any transportation cost. This warranty does not cover failures due to abuse, misuse, accident or unauthorized alteration or repairs.

THE WARRANTIES AND REMEDIES CONTAINED HEREIN ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES EXPRESS OR IMPLIED OR STATUTORY, INCLUDING ANY LIABILITY ARISING UNDER ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, STATUTORY OR OTHERWISE. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, WHICH MAY VARY FROM STATE TO STATE.

IN NO EVENT SHALL GARMIN BE LIABLE FOR ANY INCIDENTAL, SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES, WHETHER RESULTING FROM THE USE, MISUSE, OR INABILITY TO USE THIS PRODUCT OR FROM DEFECTS IN THE PRODUCT. Some states do not allow the exclusion of incidental or consequential damages, so the above limitations may not apply to you.

Garmin retains the exclusive right to repair or replace the unit or software or offer a full refund of the purchase price at its sole discretion. SUCH REMEDY SHALL BE YOUR SOLE AND EXCLUSIVE REMEDY FOR ANY BREACH OF WARRANTY.

To obtain warranty service, contact your local Garmin authorized dealer. Or call Garmin Customer Service at one of the numbers shown below, for shipping instructions and an RMA tracking number. The unit should be securely packed with the tracking number clearly written on the outside of the package. The unit should then be sent, freight charges prepaid, to any Garmin warranty service station. A copy of the original sales receipt is required as the proof of purchase for warranty repairs.

Products sold through online auctions are not eligible for rebates or other special offers from Garmin. Online auction confirmations are not accepted for warranty verification. To obtain warranty service, an original or copy of the sales receipt from the original retailer is required. Garmin will not replace missing components from any package purchased through an online auction.

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Software License Agreement

BY USING THE FISHFINDER 320C, YOU AGREE TO BE BOUND BY THE TERMS AND CONDITIONS OF THE FOLLOWING SOFTWARE LICENSE AGREEMENT. PLEASE READ THIS AGREEMENT CAREFULLY.

Garmin grants you a limited license to use the software embedded in this device (the "Software) in binary executable form in the normal operation of the product. Title, ownership rights and intellectual property rights in and to the Software remain in Garmin.

You acknowledge that the Software is the property of Garmin and is protected under the United States of America copyright laws and international copyright treaties. You further acknowledge that the structure, organization and code of the Software are valuable trade secrets of Garmin and that the Software in source code form remains a valuable trade secret of Garmin. You agree not to decompile, disassemble, modify, reverse assemble, reverse engineer or reduce to human readable form the Software of any part thereof or create any derivative works based on the Software. You agree not to export or re-export the Software to any country in violation of the export control laws of the United States of America.

WARNING: This product, its packaging, and its components contain chemicals known to the State of California to cause cancer, birth defects, or reproductive harm. This Notice is being provided in accordance with California's Proposition 65. If you have any questions or would like additional information, please refer to our web site at http://www.garmin.com/prop65.

Packing List

For the most recent list of available accessories for your unit, current user manuals and software updates, visit our web site at www.garmin.com.

Before installing and getting started with your unit, please check to see that your package includes the following items. The package part number can be found on the outside of the box. **If any parts are missing, please contact your Garmin dealer immediately.**

Standard Package (010-00289-00 w/o transducer):
- Fishfinder 320C Unit • Surface-Mount Bracket and Knobs • Power/Data Cable • Owner's Manual
- Self-Adhesive Quick Reference Guide • Protective Cover • Flush-Mount Hardware Kit

Optional Package (010-00289-01) includes Standard Package, plus:
- Dual Frequency (200/50kHz, 10/40°) Plastic Transom Mount Transducer with Depth and Temp
- Separate Speed Sensor

Optional Package (010-00289-02) includes Standard Package, plus:
- Single Frequency (200kHz, 20°) Plastic Transom Mount Transducer with Depth and Temp
- Separate Speed Sensor

Optional Accessories:
- US A/C PC Adapter • EURO A/C PC Adapter • Cigarette Lighter Adapter • 2nd Mounting Station
- 10 ft. Transducer Extension cable • 20 ft. Transducer Extension cable • Temperature probe
- Speed sensor • Temp & Speed only sensor, plastic, thru-hull mount

Optional Transducers:
Included in the *Optional Packages* are transom mount transducers and separate speed sensors. These transducers provides good all-around performance. For a list of optional transducers, see page v.

Transducers

The transducer acts as the eyes and ears of your new sonar. Proper transducer selection and installation are important to the operation of your unit. The transducer transmits sound waves toward the bottom in a cone shape. The larger the cone angle the larger the coverage area at a given depth. While it is good to see as large of an area as possible, it is best to select a transducer that suits the water that you are on.

A wide cone angle transducer works best in shallower water. The wide cone angle provides a large coverage or viewing area, but at a decreased bottom resolution. In deeper water this can result in a large dead zone where fish cannot be seen.
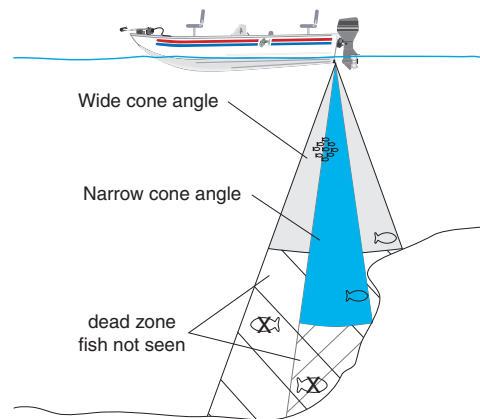
A narrow cone angle transducer is better suited to deep water installations. The narrow cone angle provides a smaller coverage or viewing area (compared to a wide cone angle transducer at the same depth) with improved bottom resolution and a smaller dead zone.

A variety of optional transducers are available from your local dealer or direct from Garmin.

- 200/50kHz, 12/45°, plastic, transom mount, depth, temp
- 200/50kHz, 12/45°, plastic, transom mount, depth, temp, speed
- 200/50kHz, 12/45°, bronze, thru-hull mount, depth
- 200/50kHz, 12/45°, bronze, thru-hull mount, depth, temp, speed
- 200/50kHz, 12/45°, bronze, thru-hull mount/long stem, depth, temp, speed
- 200/50kHz, 12/45°, plastic, thru-hull mount, depth
- 200/50kHz, 12/45°, plastic, adjustable. in-hull mount
- 200kHz, 14°, plastic, transom mount, depth
- 200kHz, 14°, plastic, transom mount, depth, temp
- 200kHz, 14°, plastic, transom mount, depth, temp, speed
- 200kHz, 8°, plastic, transom mount, depth, temp
- 200kHz, 8°, plastic, transom mount, depth, temp, speed
- 200kHz, 12°, bronze, thru-hull mount, depth
- 200kHz, 12°, bronze, thru-hull mount, depth, temp
- 200kHz, 9°, bronze, thru-hull mount, depth, temp, speed
- 200kHz, 12°, plastic, thru-hull mount, depth
- 200kHz, 12°, plastic, thru-hull mount, depth, temp
- 200kHz, 14°, plastic, in-hull mount, depth
- 200kHz, 14°, plastic, trolling motor mount, depth, temp

Selecting a Transducer

Wide cone angle

Narrow cone angle

dead zone
fish not seen

Introduction

Table of Contents

Installing the Fishfinder 320C

The Fishfinder 320C must be properly installed according to the following instructions to get the best possible performance. To complete the installation, you'll need the appropriate fasteners and tools. Check that all cables will reach the unit mounting location and also take time to read through these instructions prior to installation. Be sure to always wear safety goggles and a dust mask when drilling, cutting or sanding. **When in doubt, seek professional assistance.**

Surface Mounting the Fishfinder 320C Unit

The Fishfinder 320C's compact, waterproof case is suitable for mounting in exposed locations or at the nav station. The unit comes with a surface-mount bracket that can be used for console or overhead mounting. When choosing a location for the display unit, make sure you consider the following conditions:

- There should be at least a 3" (8 cm) clearance behind the case to allow connection of the transducer and power/data cables.
- The mounting surface should be heavy enough to support the unit and protect it from excessive vibration and shock.

⚠️ NOTE: The temperature range for the Fishfinder 320C is 5°F to 158°F (-15°C to 70°C). Extended exposure to temperatures exceeding this range (in storage or operating conditions) may cause failure of the LCD screen. This type of failure and related consequences are NOT covered by the manufacturer's limited warranty.

To surface mount the Fishfinder 320C display:

1. Place the mounting bracket in the desired location.
2. Mark and drill the four mounting holes for the fastener you are using.
3. Fasten the bracket to the surface using the appropriate fasteners.
4. Insert the Fishfinder 320C into the mounting bracket. The bracket is designed for a tight fit to provide additional support when swiveling the unit.
5. Screw the two mounting knobs through the bracket and into the display case.
6. Connect the power/data and transducer cables to the back of the unit, making sure the locking rings are fully tightened on both connectors.
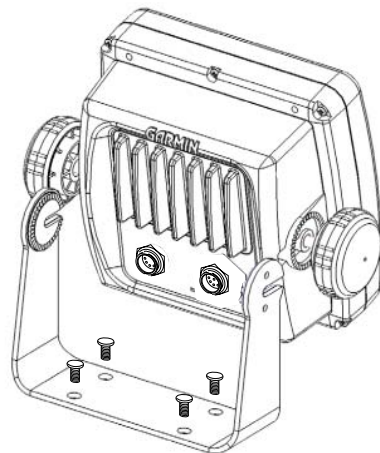
Unit Installation

The Mounting Bracket is designed to be secured using a flat head screw. If you use a screw with a countersunk head, you risk damaging the Mounting Bracket.

Unit Installation

Hex Nuts · Washer · Studs
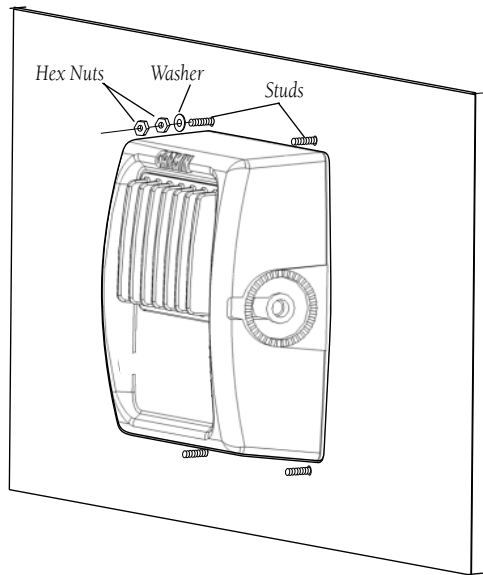
Flush Mounting the Fishfinder 320C Unit

The Fishfinder 320C can be flush mounted on a flat panel. When flush mounting the Fishfinder 320C, be sure to choose an appropriately sized location for the unit. Check that all cables will reach the unit mounting location before beginning installation. Use the Flush Mount Template provided in the box to determine a location. Be sure to always wear safety goggles and a dust mask when drilling, cutting or sanding. Included Mounting Hardware: 4 - 3mm Studs, 4 - Flat Washers, 8 - 3mm Hex Nuts

To flush mount the Fishfinder 320C:

1. Trim the Flush Mount Template and tape in the desired location.

2. Using a Center Punch, indent the center of each Mounting Hole location.

3. Using an 1/8″ (3mm) drill bit, drill the four Mounting Holes.

4. Using a 3/8″ (6mm) drill bit, drill a hole for a location to begin cutting the mounting surface.

5. Using the Jig Saw, cut the mounting surface along the inside of the dashed line indicated on the template. **Be very careful when cutting this hole, there is only a small amount of clearance between the unit and the Mounting Holes.** It may be prudent to cut slightly inside the indicated line and then sand or file the panel as needed to obtain the best fit.

6. Install the four Mounting Studs into unit by screwing the shorter section in to the back of the unit. Use a 1/16″ (2mm) Allen Wrench to tighten the Mounting Studs until the stop contacts the case. Be careful not to overtighten as this may damage the Mounting Stud! The studs have a reusable thread-locking patch pre-applied from the factory.

7. Place the unit in position in the cut out in the mounting surface.

8. Place washers over the Mounting Studs, then thread on one Hex Nut per Mounting Stud. Tighten all four until the unit is snug against the mounting surface. Install and tighten the second Hex Nut on all four Mounting Studs to lock the first one in place.

Connecting the Power/Data Cable

The power/data cable connects the Fishfinder 320C to a 10-35 volt DC system and provides interface capabilities for connecting external devices. The color code in the diagram (pg. 4) indicates the appropriate harness connections. Replacement fuse is a AGC/3AG - 2 Amp fuse. If it is necessary to extend the power/data wires, use a wire of comparable size and keep your extension as short as possible.

If your boat has an electrical system, it may be possible to wire the unit directly to an unused holder on your current fuse block. If you are using the boat's fuse block, remove the in-line fuse holder supplied with the unit. If your boat does not have a fuse block, the unit can be wired directly to the battery. Make sure the 2-Amp in-line fuse supplied with the unit is installed if connecting the unit direct to the battery.

Installing the Wiring Harness (Basic):

1. Determine the polarity of the fuse holder using a Test Light or Volt Meter.
2. Install the Red (+) wire on the Positive Fuse Holder Terminal.
3. Install the Black (-) wire on the Negative Fuse Holder Terminal.
4. Install a 2 amp fuse in the Fuse Holder.

The Fishfinder 320C can be connected to another piece of NMEA compatible electronic equipment, such as a Garmin GPS (Global Positioning System). If equipped with a capable transducer, the Fishfinder 320C can send depth, temperature, and speed information. It can also mark a location (pg. 13) that could be displayed on another device and can accept GPS navigational data (pg. 14), such as position, time, course, distance, etc. Refer to the wiring diagram on the following page for interfacing the Fishfinder 320C with other devices.

Installing the Wiring Harness to a GPS:

1. Follow steps 1-4 of the above wiring harness installation. For Garmin units, the Ground (black) wires from both devices must be attached together or on the same fuse terminal for data ground. Refer to the wiring diagram of your GPS unit for wire identification.
2. Connect the Blue (Data Out) wire from the Fishfinder to the Data IN wire on the GPS harness.
3. Connect the Brown (Data In) wire from the Fishfinder to the Data OUT wire on the GPS harness.
4. Set the Fishfinder 320C NMEA Input/Output to 'On' (pg. 18). For Garmin GPS units, set the communications interface to NMEA/NMEA, NMEA In/NMEA Out or NMEA.
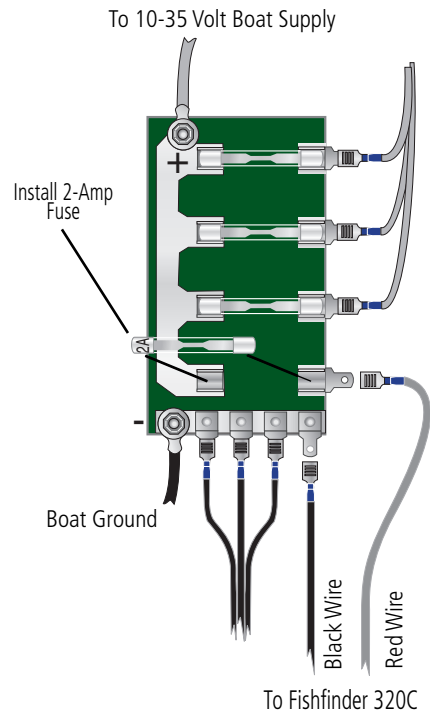
Wiring and Interfacing

To 10-35 Volt Boat Supply

Install 2-Amp Fuse

Boat Ground

Black Wire

Red Wire

To Fishfinder 320C

Wiring and Interfacing

Complete information concerning National Marine Electronics Association (NMEA) format and sentences is available for purchase from NMEA at:
NMEA
Seven Riggs Avenue
Severna Park, MD 21146
U.S.A.
410-975-9425
410-975-9450 FAX
www.nmea.org

(Cable View)

PIN 1 (red) 10-35 VDC
PIN 2 (black) Ground (Power and Data)
PIN 3 (blue) Port 1 Data OUT
PIN 4 (brown) Port 1 Data IN
PIN 5 (white) Port 2 Data IN (N/C)
PIN 6 (green) Port 2 Data OUT
PIN 7 (yellow) Alarm Low

(-)   (+)
Power
10-35 volts DC

(-)   (+)
RXD +
GPS/NMEA Device
TXD +

(-) and RXD -   (+)
NMEA Device
RXD +

Alarm Relay
100ma max
coil current
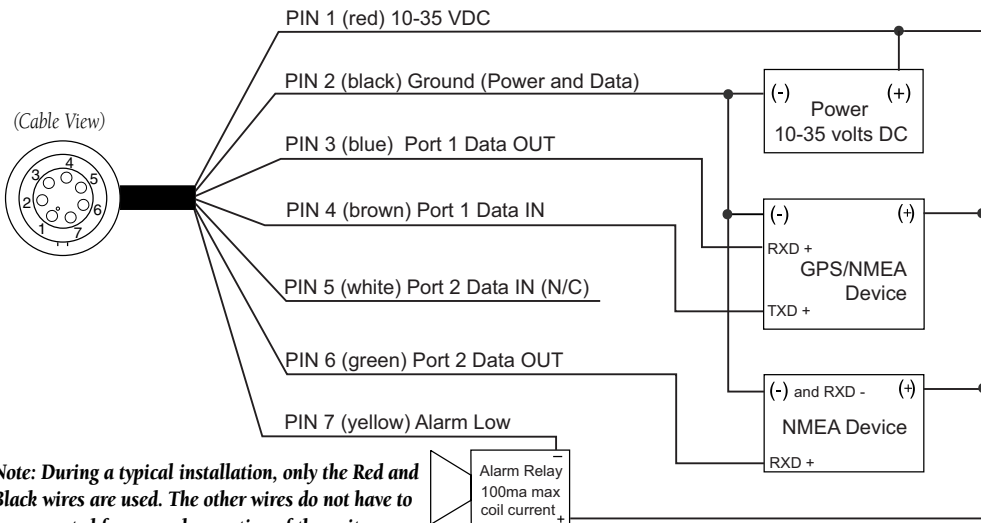
Note: During a typical installation, only the Red and Black wires are used. The other wires do not have to be connected for normal operation of the unit.

Interfacing

The Fishfinder 320C allows for NMEA 0183, Version 2.3 input/output with a compatible GPS or navigation device. NMEA Input/Output must be set to 'On' to send/receive data. (see pg. 18). For additional information on using your Fishfinder 320C with NMEA devices, see pages 3, 13-14, and 18.

The following are the sentences for NMEA 0183, version 2.3:

Input — GPBOD, GPBWC (only used if RMB not present), GPGGA, GPGLL (only used if GGA not present), GPRMB, GPRMC, GPXTE (only used if RMB not present)

Output — SDDBT, SDDPT, SDMTW, SDVHW, SDWPL* (only if a waypoint is "marked" in Pointer Mode)

*Garmin GPS units will accept the SDWPL (WPL) NMEA sentence and create a waypoint (saved location) at that position (see pg. 13). For compatibility with other brands of GPS or NMEA capable navigation devices, check with that manufacturer to see if their unit accepts/stores NMEA 0183 SDWPL sentences/waypoints. The Fishfinder 320C does not store the actual waypoint. Only the receiving device, if capable, will store the waypoint.

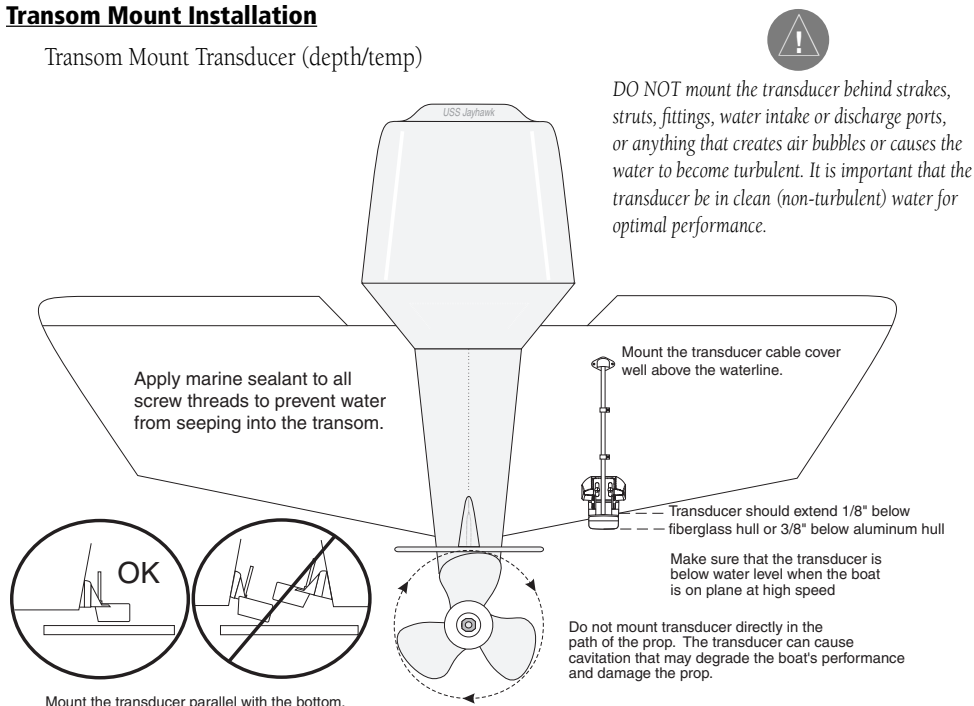Proper transducer installation is key to getting the best performance from your new unit. If the transducer lead is too short, extension cables are available from your Garmin dealer. Coil and secure any excess cable. **DO NOT** cut the transducer lead or any part of the transducer cable, as this will void your warranty. The cable cannot be spliced and connected to any existing (Garmin or non-Garmin) transducer cables.

Following are some tips and basic installation instructions for some popular transducers. **Detailed installation instructions are provided in the transducer kits.** Some transducers may need to be installed by a professional marine installer.

Transom Mount Installation

Transom Mount Transducer (depth/temp)

DO NOT mount the transducer behind strakes, struts, fittings, water intake or discharge ports, or anything that creates air bubbles or causes the water to become turbulent. It is important that the transducer be in clean (non-turbulent) water for optimal performance.

USS Jayhawk

Apply marine sealant to all screw threads to prevent water from seeping into the transom.

Mount the transducer cable cover well above the waterline.

Transducer should extend 1/8" below fiberglass hull or 3/8" below aluminum hull

Make sure that the transducer is below water level when the boat is on plane at high speed

OK

Do not mount transducer directly in the path of the prop. The transducer can cause cavitation that may degrade the boat's performance and damage the prop.

Mount the transducer parallel with the bottom.

Mounting the Transducer

To Unit

Speed   Temp   Transducer

Connecting a Transducer to Multiple Sensors

Mounting the Transducer

PVC Pipe or a Can

Weight transducer to hold it in place

Fill Pipe or Can with water or a light mineral oil

Strip Caulk or RTV Sealer

Hull Surface

Testing the Location

To avoid drilling a hole to mount a thru-hull transducer, a transducer may be secured with epoxy inside a boat ("shoot-thru-hull" installation). This type of installation can provide better noise reduction and allow you to use a higher gain setting. For a transducer to be mounted inside the hull (shoot-thru, not thru-hull), the boat must be fiberglass, with no core. Contact your boat manufacturer if you are unsure. Professional installation may be necessary. Be sure to always wear a dust mask and safety goggles.

Shoot-Thru-Hull Installation

Some transducers are specifically designed to be mounted inside a fiberglass hull. The standard plastic transom mount transducer can also be mounted in this fashion using this method. If using a temperature sensing transducer, the temperature displayed will reflect the hull temperature.

Selecting a location:

1. The location has to be solid fiberglass, devoid of any air bubbles, laminates, fillers or dead air space. The location needs to be in an area of clean water at all speeds. Do not place the transducer over any strakes or behind any obstruction on the hull that would create turbulence at speed.

> *NOTE: Many modern hulls have a prelocated pocket for shoot-thru-hull transducer installation. If you are unsure if your hull is equipped with a pre-located pocket, contact your hull manufacturer.*

Testing the location:

1. Fabricate a test device from a section of PVC pipe or a can, as shown in the side bar.
2. Temporarily seal the test device to the hull with caulking or RTV sealer, and fill with water or light mineral oil.
3. Place the transducer in the water, pointed directly at the bottom and weight it down. Set unit for optimum performance. If the sonar performance is significantly degraded, another location will need to be tested.

Permanently installing the transducer:

1. Lightly sand the surface of the hull and face of the transducer with 400 grit wet or dry sandpaper.
2. Build a dam using strip caulk about 1/4″ tall. Pour about 1/8″ of two part, slow cure epoxy in the dam.
3. Place the transducer in the epoxy, turning the transducer to work out any air bubbles.
4. Weight the transducer in place and allow to cure for 24 hours.

Testing the Installation

While it is possible to perform some checks with the boat trailered, the boat should be in the water to properly test the sonar portion of the installation.

Press the **POWER/BACKLIGHT** key (see pg. 8) and the Fishfinder 320C should power on. If the unit fails to power on, verify that the wiring adapter is seated properly in the back of the unit, the Red and Black wires are connected to the correct polarity, and that the 2-Amp fuse is installed and not blown. If the unit is connected to a power supply that exceeds 35v DC, a "Battery Voltage High" warning will be displayed and the unit will turn off. If the unit does not detect a transducer, it will automatically enter Simulator Mode.

When the unit detects a transducer on initial power up, a "Please set up transducer" message will appear. Press the **ENTER** key (see pg. 8) to select the transducer type. Highlight your transducer type with the **ARROW KEYPAD** and press **ENTER**. Press **QUIT** to return to the Sonar display.

Since water is necessary to carry the sounder's sonar signal, the transducer must be in the water to work properly. It is not possible to get a depth/distance reading when out of the water. As the unit powers on, it should immediately start showing the bottom. Verify that the unit is not in the simulator mode. If the unit is in the simulator mode, make sure that the transducer is connected properly to the unit. When you place your boat in the water CHECK FOR LEAKS around any screw holes that have been added below the water line. DO NOT leave your boat in the water for an extended period of time without checking for leaks.

Begin testing the installation at a slow speed. If the sonar appears to be working properly, gradually increase the boat's speed while observing the sonar's operation. If the sonar signal suddenly is lost or the bottom return is severely degraded, note the speed at which this occurs. Return the boat to the speed the signal was lost. Make moderate turns in both directions and see if the signal improves. If the signal strength improves while turning, adjust the transducer so that it extends another 1/8" below the transom of the boat. It may take several adjustments to eliminate the degradation. If the signal does not improve, it may be necessary to move the transducer to a different location.
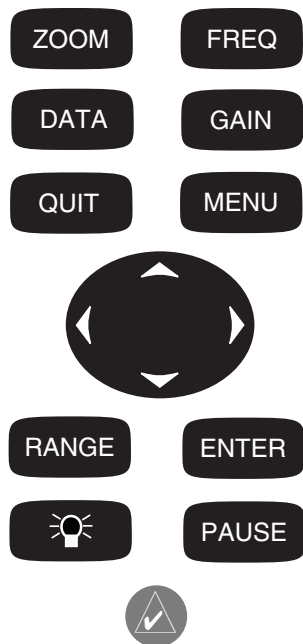
> NOTE: When adjusting the depth of the transducer, make the adjustments in small increments. Placing the transducer too deep can adversely affect the boat's performance and put the transducer at greater risk of striking underwater objects.

Keypad Usage

NOTE: *Always press and release a key to perform its primary function. Pressing and holding a key will activate its secondary function (if available).*

Using the Keypad

ZOOM Key— displays the Zoom adjustment control. Pressing Up/Down on the **ARROW KEYPAD** will select the desired zoom level.

FREQ Key— displays the Frequency adjustment control. Pressing Up/Down on the **ARROW KEYPAD** will select the desired sonar frequency.

DATA Key— toggles the data field in the upper left of the Sonar Page between the Basic and Advanced displays. When held for more than 2 seconds, enters Advanced data setup.

GAIN Key— displays the Gain adjustment control. Pressing Up/Down on the **ARROW KEYPAD** will select the desired gain setting.

QUIT Key— exits the current menu or configuration option. Returns the display to the previous page and, when entering data, restores the previous data (cancels data entry).

MENU Key— from the sonar screen, displays the Adjustment Menu. Press again to access the Main Menu for unit configuration.

ARROW KEYPAD— used to select (highlight) menu options and enter data. Also controls movement of the cursor when paused in Pointer mode. Allows direct control of Sonar Page Adjustments.

RANGE Key— displays the Range adjustment control. Pressing Up/Down on the **ARROW KEYPAD** will select the desired setting.

ENTER Key— selects a highlighted menu option. When entering data, it allows you to initiate entry and then accept the selected value(s). When paused in Pointer mode, will create a waypoint at the Pointer position (if equipped with compatible NMEA GPS).

POWER/BACKLIGHT Key— press and hold to turn the unit on and off. While the unit is on, pressing and releasing will display the backlight control. Multiple presses of the **POWER/BACKLIGHT** key will toggle the unit's backlight between maximum, user-set, and minimum backlight brightness levels.

PAUSE Key— pauses the scrolling sonar display. When held for more than 2 seconds, enters Pointer mode. Use the **ARROW KEYPAD** to move the cursor around the display to examine the depth of specific items in greater detail. If the Fishfinder 320C is interfaced with a Garmin GPS or compatible NMEA navigation device (pgs. 3-4), pressing the **ENTER** key in this state will send a WPL sentence to that device (if the current position is known) creating a waypoint at that position. See pages 13 for more information.

Sonar Page

The Sonar Page is where your Fishfinder 320C becomes a powerful fishfinder/flasher. If the unit does not detect a transducer, a "Sonar Turned Off" message will appear across the Sonar Page. If in Simulator mode, a 'Running Simulator' message will appear after 2 minutes of inactivity.

The top left of the screen contains numbers or data fields, such as Depth, Water Speed and Water Temp (see pg. 14), while the currently selected Adjustment (see pg. 10) option will appear in the upper left of the display. The middle of the page contains a right-to-left moving sonar image of the water beneath your boat. (Note: Items appear as they pass under your transducer. Those items on the right side of the screen are closer to you than those on the left.) Along the right side of the screen is an adjustable scale which reflects the depth of the area being displayed.
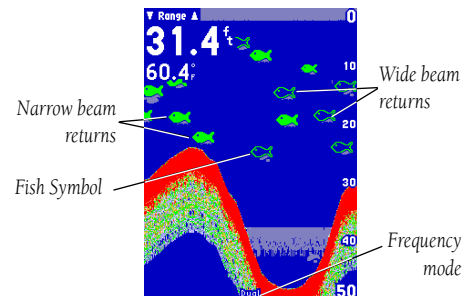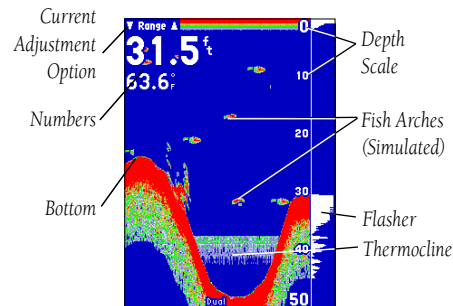
The sonar display may also be set to show a split screen view of a zoomed portion of the sonar, bottom lock (display scaled from the bottom up), or a combination of these options (see pg. 11). For example, you may choose to show dual frequency at a 2X zoom (Dual 2X) on one half and normal range dual frequency (Dual) returns on the other half. The current display mode will be displayed at the bottom of each sonar display.

Sonar returns will show as red (strongest), then oranges (strong), yellows (medium), greens (weaker) and blues (weakest). The 'Fish Symbols' option (see page 15) allows you to view the actual sonar data, a fish symbol or a combination of both. 'Fish Symbols' will appear as green. When the unit is set to 'Dual' (see page 12), the appearance of the fish symbols (and simulated fish returns) will change. Fish symbols from the narrower beam (200kHz) will be solid (or narrow returns), but the returns from the wider beam (50kHz) will be hollow (or wide returns). Simulated fish icons are displayed in three different sizes. Actual fish returns may not always appear as perfect arches, due to the speed, fish orientation, and/or other conditions.

More on understanding the sonar may be found on pages 21-24.
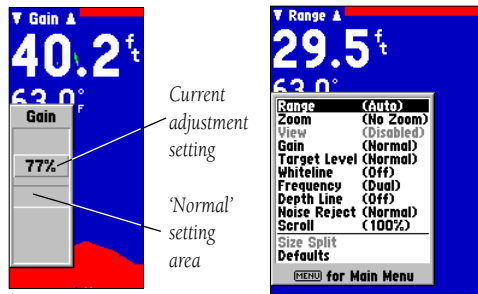
Describing the Display

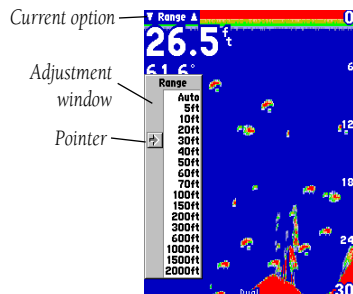*Current Adjustment Option*

Numbers

Bottom

Depth Scale

Fish Arches (Simulated)

Flasher
Thermocline

Narrow beam returns

Fish Symbol

Wide beam returns

Frequency mode

Adjustment Menu Options

Adjustment Menu options

Current adjustment setting

'Normal' setting area

Current option

Adjustment window

Pointer

Using the Adjustment Menu

The Adjustment Menu allows direct access to the settings and features most commonly used on the Sonar Page. There are 10 main adjustment options available: Range, Zoom, View, Gain, Target Level, Whiteline, Frequency, Depth Line, Noise Reject, and Scroll. All adjustments may be made by using the **ARROW KEYPAD** and **ENTER** key. The currently selected option will appear in the upper left of the display with an up and down arrow on each side of the name.

To change an Adjustment Menu setting:

1. Press the **MENU** key to bring up a list of all options and their current settings. The adjustment window will automatically time-out and disappear when idle for 20 seconds or you may press **QUIT** to exit. Highlight the desired option to change and press **ENTER** to bring up the Adjustment window. Alternately, press the dedicated **ZOOM**, **FREQ**, **GAIN** or **RANGE** key to adjust the desired option.

2. With the **ARROW KEYPAD**, move UP or DOWN and place the setting bar (or pointer) at the desired percentage (Off, 1-100%), setting or range. When changing most adjustments, an open space will appear on the scale to show where the of 'Normal' or default setting would appear. Once set to 'Normal', the setting bar will be replaced by the word 'Normal'.

3. Press **ENTER** or **QUIT** to accept the new setting and return to the sonar graph.

For users accustomed to other Garmin sonar products, the current adjustment will appear in the upper left corner. For fast adjustment from the Sonar Page, press LEFT or RIGHT on the **ARROW KEYPAD** to scroll through the options, then press UP or DOWN on the **ARROW KEYPAD** to immediately change the current option or the **ENTER** key to review the current setting before making changes.

Adjustment Options

The Adjustment Menu allows direct access to the settings and features most commonly used. These available adjustments are:

• **Range —** sets the display depth range used for viewing. The unit can be set to automatically track the bottom or set to a user-specified depth range (see "Custom Range" pg. 16).

• **Zoom —** used to quickly select a display zoom scale or to split the display. When a scale other than 'No Zoom' is selected, the Adjustment Menu will display a new selection labeled View or Span.

The Zoom function is divided into six display levels:

2X Split — Shows two reduced-size sonar pictures at the same time. The right half of the display screen shows the complete sonar picture at its original scale. The left half shows a portion of the original picture at 1/2 depth scale.

2X Zoom — Displays the 2X zoomed picture on the full screen and does not show the original scale picture.

4X Split — Shows two reduced pictures, the right at the original depth scale and the left at 1/4 the original depth scale.

4X Zoom — Displays only the 4X zoomed picture on the full screen.

Btm (Bottom) Split — Shows two reduced pictures, the right at the original depth scale and the left showing sonar returns from the bottom up. All target depths will read as a distance from the bottom.

Btm (Bottom) Lock — Displays only the Bottom Lock (returns from the bottom up) picture on the full screen.

• **View/Span —** available when a Zoom scale other than 'No Zoom' is selected. The 'View' or 'Span' setting is used to change the viewing range of a zoomed display. If the display is 2X or 4X split, only the zoomed portion on the left side of the display will be affected by the change. If the display is Bottom Split or Bottom Lock, 'Span' will adjust how far off the bottom the unit will display data.

• **Gain —** allows you to control the sensitivity of the unit's receiver. This provides some flexibility in what is seen on the display. To see more detail, increase the receiver sensitivity by selecting a higher gain percentage. If there is too much detail or if the screen is cluttered, lowering the sensitivity may increase the clarity of the display.

• **Target Level —** adjusts which colors are used to display sonar information. A Color Bar (see pg. 16) will appear on the right side of the screen as you adjust this setting. A higher percentage will result in more strong-signaled colors (see pg. 9) displayed on the Sonar Page. A lower percentage will result in more weaker-signaled colors (see pg. 9) displayed on the Sonar Page. This setting does not increase/decrease the unit Gain.

Adjustment Menu Options

2X Zoom View

Depth Line

Normal View

Sonar 2X Split Screen (shown with Depth Line)

Bar represents area shown on 2X View

Sonar View Adjustment